

IN THE CLAIMS:

Amend claims 131 and 142 and cancel claims 1, 7-9, 120-122, 134, and 136-141¹ without prejudice or admission as shown in the following listings of claims, which replaces all previous versions and listings of claims in this application.

1. - 130. (canceled).

131. (currently amended) A near-field optical head
comprising:

a planar substrate having a first surface, a second surface disposed opposite to the first surface, and an inverted conical or pyramidal hole extending through the first and second surfaces, the inverted conical or pyramidal hole having at least one fine aperture formed at an apex thereof and disposed in the first surface and having at least one curved slant surface;

an optical waveguide extending into the inverted conical or pyramidal hole of the planar substrate for propagating light along an optical path; and

a mirror disposed in the optical waveguide for bending in the direction of the fine aperture the optical path of the light propagated through the optical waveguide;

¹ Claims 2-6, 10-119, 123-130 and 135 were canceled in previously filed amendments.

~~according to claim 1; wherein~~ wherein the curved slant surface is formed between first and second tapers of the inverted conical or pyramidal hole, the first taper having a slant angle of approximately 55 degrees relative to the first surface of the planar substrate and the second taper having a slant angle of approximately from 10 degrees to 30 degrees relative to the first surface of the planar substrate.

132. (previously presented) A near-field optical head according to claim 131; wherein the second taper is disposed closer to the fine aperture than is the first taper.

133. (previously presented) A near-field optical head according to claim 131; wherein the first taper originates from the second surface of the planar substrate.

134. - 141. (canceled).

142. (currently amended) A near-field optical head comprising:

a substrate having an inverted conical or pyramidal hole penetrating therethrough, the hole being formed by at least one curved slant surface and having at least one fine aperture at an apex thereof;

an optical waveguide extending into the inverted conical or pyramidal hole of the substrate for propagating light along an optical path; and

a mirror disposed in the optical waveguide for bending in the direction of the fine aperture the optical path of the light propagated through the optical waveguide;

~~according to claim 134; wherein~~ wherein the curved slant surface is formed between first and second tapers of the inverted conical or pyramidal hole, the first taper having a slant angle of approximately 55 degrees relative to the surface of the substrate and the second taper having a slant angle of approximately from 10 degrees to 30 degrees relative to the surface of the substrate.

143. (previously presented) A near-field optical head according to claim 142; wherein the second taper is disposed closer to the fine aperture than is the first taper.